

Serial No. 09/863,948
June 23, 2003
Reply to Office Action of October 31, 2001
Page 9 of 17

REMARKS

Claims 1-22 are pending in this application. By this Amendment, Applicants amend Claims 1, 3-9, 12-14 and 18-22.

The specification was objected to for allegedly failing to provide proper antecedent basis for the claimed subject matter because of the subject matter recited in Claims 6 and 20. In addition, the drawings were objected to under 37 CFR 1.83(a) because the originally filed drawings did not show the features of Claims 6 and 20. Applicants have amended Claims 6 and 20 to eliminate the objectionable subject matter. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the specification and drawings.

The drawings were also objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference signs 32 and 50. Applicants enclose replacement sheets of drawings in which reference signs 32 and 50 have been added. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the drawings.

The drawings were further objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "36" was been used to designate both the conical surface and the first major surface. Applicants enclose replacement sheets of drawings in which the reference character 36 is properly illustrated. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the drawings.

Claim 12 was objected to because of an informality contained therein. Applicants have amended Claim 12 to correct the informality noted by the Examiner. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to Claim 12.

Claims 1-11 and 21-22 were rejected under 35 U.S.C. 112, second paragraph, for allegedly being indefinite. Applicants have amended the claims to correct the informalities noted by the Examiner. Accordingly, Applicants respectfully request

Serial No. 09/863,948

June 23, 2003

Reply to Office Action of October 31, 2001

Page 10 of 17

reconsideration and withdrawal of the rejection of the claims under 35 USC Section 112, second paragraph.

Claims 1, 2, 10, 11 and 21 were rejected under 35 U.S.C. 102(b) as being anticipated by Pei et al. (US 5997,317). Claims 3 and 4 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pei et al. Claims 5-9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pei et al. Claims 12-20 and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Pei et al in view of Swamy et al. (US 5,613,033). Applicants respectfully traverse these rejections.

Applicants' claim 1 has been amended to recite:

"An electrical connector portion, comprising:

an insulating substrate having a first major face and an oppositely disposed second major face;

a plurality of non-recessed apertures extending through the insulating substrate from the first major face to the second major face;

a plurality of elongated electrically conducting members extending through the respective non-recessed apertures;

a plurality of insulating posts connected to the first major face of the insulating substrate; and

a plurality of reflowable electrical conductors disposed adjacent the first major face and **arranged such that respective ones of the plurality of insulating posts contact each of the plurality of reflowable electrical conductors at four separate locations on the respective reflowable electrical conductor so as to position the respective reflowable electrical conductor;**

wherein each elongated electrical conductor extends into a respective reflowable electrical conductor." (emphasis added)

Applicants' claim 12 has been amended to recite:

"An electrical connection device, comprising:

a first insulating plate, having a first plate first face for engaging a first device and a first plate second face;

a second insulating plate, having a second plate first face for engaging a second device and a second plate second face for removably engaging a the first plate second face;

a plurality of apertures formed through each respective insulating plate;

a plurality of insulating posts fixed to and xtending

Serial No. 09/863,948

June 23, 2003

Reply to Office Action of October 31, 2001

Page 11 of 17

upwardly from each respective first face;

a plurality of fusible electrical conductors positioned on each respective first face; and

a plurality of electrically conducting pins extending from each respective second face through the apertures;

wherein each respective pin extends into a respective fusible electrical conductor and **respective ones of the plurality of insulating posts contact each of the plurality of fusible electrical conductors at two pairs of diametrically opposed locations on the respective fusible electrical conductor so as to position the respective fusible electrical conductor.**" (emphasis added).

Applicants' claims 18 and 21 have also been amended to recite similar features and steps as those highlighted in claims 1 and 12 above.

The Examiner alleged that "Pei teaches (in Fig.5) a plurality of insulating posts extending from a first major surface (12) to limit the position of the reflowable conductors (23). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the first major surface with a plurality of insulating posts, as taught by Pei, to limit the position of the reflowable conductors."

The only posts taught by Pei are the electrically conductive lugs 25 that are part of the electrically conductive contacts 2 shown in Fig. 4, and standoffs 16 that are part of the insulative housing 10 shown in Fig. 5 of Pei.

The **electrically conductive** lugs 25 that are part of the electrically conductive contacts 2 shown in Fig. 4 of Pei are completely different from Applicants' claimed **insulating** posts, especially since the conductive lugs 25 are part of the metal stamping that forms the conductive contacts. In addition, with the arrangement of the conductive lugs 25 of Pei, it is possible for adjacent solder balls to spread during reflow and be electrically connected to an adjacent solder ball or one or more adjacent conductive lug, which would cause adjacent conductive contacts 2 to be undesirably and disadvantageously electrically connected to each other.

In the only teaching by Pei of **insulating** posts or "standoffs" in Fig. 5, only two posts or "standoffs" are provided. See Column 2, line 66 of Pei, in which Pei specifically

Serial No. 09/863,948

June 23, 2003

Reply to Office Action of October 31, 2001

Page 12 of 17

discloses that the use of only two insulating standoffs is sufficient in the structure shown in Fig. 5. This is because the conductive contact 2 of Pei has a flat portion 21 which covers the aperture 13 through which the conductive contact 2 is extends. When a solder ball is placed on the flat portion 21 of the conductive contact 2 of Pei, the solder ball has a natural tendency to remain in the center of the flat portion 21. Hence, the flat portion 21 provides an additional, different type of positioning function not present in Applicants' claimed invention. Thus, in the invention of Pei, only two insulative lugs 16 are needed and no additional lugs are needed or even contemplated because of the use of the flat portion 21.

The two insulating posts or standoffs in Fig. 5 of Pei clearly would not be sufficient to accurately position and hold the solder ball in proper position relative to the conductive terminal or conducting pins of Applicants' claimed invention because the tip of the conductive pin, NOT a flat portion, mates with the solder ball. Given the fact that the tip of the conductive pin mates with the solder ball in Applicants' claimed invention, Applicants' claimed invention does not use the flat portion 21 used by Pei and thus, Applicants' claimed invention requires an entirely different type of guidance provided by the plurality of insulating posts.

Thus, Pei fails to teach or suggest Applicants' claimed features of "a plurality of reflowable electrical conductors disposed adjacent the first major face and arranged such that respective ones of the plurality of insulating posts contact each of the plurality of reflowable electrical conductors at four separate locations on the respective reflowable electrical conductor so as to position the respective reflowable electrical conductor" and "the plurality of insulating posts contact each of the plurality of fusible electrical conductors at two pairs of diametrically opposed locations on the respective fusible electrical conductor so as to position the respective fusible electrical conductor."

In fact, Pei fails to recognize the necessity or desirability of the above-identified features of Applicants' claimed invention as Pei discloses that only two insulative posts are sufficient to accurately hold the solder ball in place, because of the arrangement of

Serial No. 09/863,948

June 23, 2003

Reply to Office Action of October 31, 2001

Page 13 of 17

the flat portion of the electrical conductor holding and engaging the solder ball, as opposed to the unique arrangement of Applicants' claimed invention in which the end of the conductive pin engages the solder ball.

Moreover, Pei clearly teaches away from Applicants' claimed invention since Pei clearly teaches that only two insulative posts are to be used, because of the positioning provided by the flat portion 21 of the electrical conductor. Thus, Pei cannot be relied upon in an obviousness rejection of Applicants' claimed invention since it is error to find obviousness where references diverge and teach away from the invention at hand.

W.L. Gore & Assoc. v. Garlock Inc., 721 F.2d 1540, 1550, 220 USPQ 330, 311 (Fed. Cir. 1983).

Swamy was relied upon for its teaching of a plurality of insulating plates. However, Swamy clearly fails to teach or suggest Applicants' claimed features of "a plurality of reflowable electrical conductors disposed adjacent the first major face and arranged such that respective ones of the plurality of insulating posts contact each of the plurality of reflowable electrical conductors at four separate locations on the respective reflowable electrical conductor so as to position the respective reflowable electrical conductor" and "the plurality of insulating posts contact each of the plurality of fusible electrical conductors at two pairs of diametrically opposed locations on the respective fusible electrical conductor so as to position the respective fusible electrical conductor."

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are respectfully requested.

Serial No. 09/863,948
June 23, 2003
Reply to Office Action of October 31, 2001
Page 14 of 17

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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